



National Aeronautics and Space Administration  
**Lyndon B. Johnson Space Center**  
 Houston, Texas



### Timetable

The schedules of events for Saturday's JSC Open House and Ballunar Liftoff are detailed on Page 3.



### Overseas interest

Japan's minister of state for science and technology checks out a Mars meteorite. Photo on Page 4.

# Space News Roundup

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No. 33

## Cabana leads first assembly flight

Astronaut Bob Cabana will command the first space shuttle mission to carry hardware to space for the assembly of the International Space Station in late 1997.

Joining Cabana on the flight deck for STS-88 aboard *Endeavour* will be Pilot Rick Sturckow, a member of the 1995 astronaut class who will be making his first space flight. Rounding out the crew are veteran Mission Specialists Nancy Currie, Jerry Ross and Jim Newman. The seven-day mission will feature mating of the U.S.-built Node 1 station

element to the Functional Energy Block, or FGB, which already will be in orbit, and two space walks to connect power and data transmission cables between the Node and FGB. The FGB, built by Boeing and the Russian Space Agency, is scheduled for launch on a Russian Proton rocket from the Baikonur Cosmodrome in Kazakhstan in late 1997.

"We're pleased to have Bob command this first flight to begin the assembly of the International Space Station," said David Leestma, director of Flight Crew Operations. "This

is a talented crew facing a very challenging and exciting mission."

Node 1 will be the first space station hardware delivered by the shuttle. It has two pressurized mating adapters—one attached to each end. One PMA is permanently mated to the FGB and the other used for orbiter dockings and crew access to the station. Node 1 also will hold an International Standard Payload Rack used to support on-orbit activities after activation on the fifth shuttle/station assembly flight.

"I couldn't be more pleased by

the selection of this exceptional crew for this mission," said Space Station Program Manager Randy Brinkley. "I have every confidence in Col. Bob Cabana and the STS-88 crew and their successful execution of this historic endeavor."

Once the shuttle reaches the orbiting FGB, Currie will use the robot arm to place Node 1 atop the Orbiter Docking System. Cabana will fly *Endeavour* to within 35 feet of the FGB, allowing Currie to grapple it and place it on the Node's Pressurized Mating Adapter.



Robert Cabana

## Atlantis returns to launch pad

*Atlantis* was returned to its ocean-side launch pad this week at Kennedy Space Center for final preparations for launch around Sept. 12.

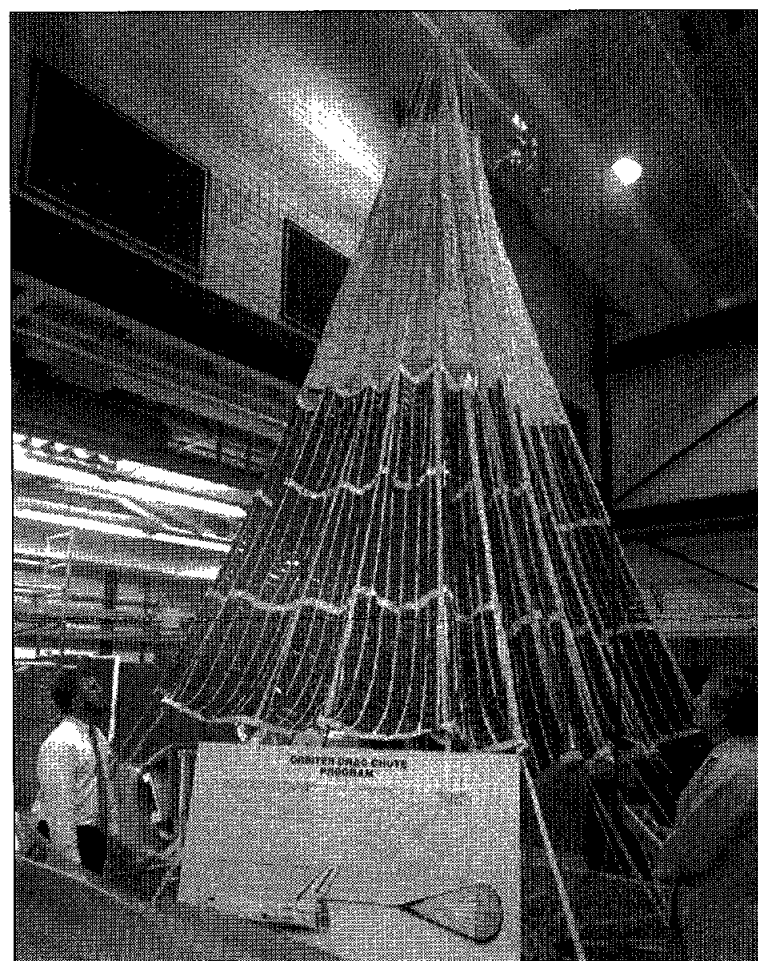
STS-79 will carry U.S. astronaut John Blaha and five crewmates to orbit for the start of a four-month research mission for Blaha aboard the Russian Mir Space Station.

*Atlantis* was slowly transported to Launch Pad 39A on Tuesday, outfitted with two new solid rocket boosters and a new fuel tank, awaiting the arrival of the STS-79 crew. Commander Bill Readdy, Pilot Terry Wil-

cutt and Mission Specialists Jay Apt, Tom Akers, Carl Walz and Blaha will leave for KSC on Sunday for a dress rehearsal of the countdown next week that will lead to their blastoff on the fourth shuttle-Mir docking flight.

A firm launch date for *Atlantis* will be set on Aug. 29 following the traditional Flight Readiness Review which will be held by NASA managers at KSC.

Meanwhile, engineers installed three refurbished main engines in the shuttle *Columbia*, taking one more step toward its launch Oct. 31 on STS-80. Commander Ken Cockrell, Pilot Kent Rominger and Mission Specialists Tammy Jernigan, Tom Jones and Story Musgrave will spend 16 days in space, deploying and retrieving a pair of science satellites, while Jernigan and Jones conduct two space walks to refine techniques for assembly of the International Space Station. Musgrave will be making a record-tying sixth flight into space aboard *Columbia*.



JSC Photo by Andrew Palnesky

**OPEN HOUSE PREPARATIONS**—John Scott of the Structures and Mechanics Division, left, and Gene Vickers of Lockheed Martin prepare a shuttle drag chute display for Saturday's JSC Open House in the high bay of Bldg. 13. Eighteen JSC buildings will be open for the public to view the inner workings of the center. For more details on the Open House and Ballunar Liftoff Festival schedules, see Page 3.

## Blood drive taps rich vein at JSC

JSC employees made a difference in their community Thursday, with 405 people turning out to donate blood.

St. Luke's Blood Donor Program collected 374 blood donations after deferrals, compared to 300 donations collected at the last drive, once again setting a center record.

Dan Mangieri, one of many coord-

inators, thanked all those who donated and helped set up the drive.

"They should all be commended for their contributions," Mangieri said. "The drive was a huge success once again."

Under the St. Luke's agreement with JSC and contractors, the hospital will be providing blood assurance coverage for all JSC personnel.

## Lucid, cohorts welcome latest Mir additions

By Natasha Calder

Cosmonaut Researcher Shannon Lucid and her Mir 21 crewmates welcomed the Mir 22 crew on board the Russian space station on Monday.

Mir 22 Commander Valery Korzun and Flight Engineer Alexander Kaleri, along with French Cosmonaut Researcher Claudie Andre-Deshays, docked their Soyuz TM-24 spacecraft with Mir on Monday after a Saturday launch from Russia. They will join Lucid, Commander Yuri Onufrienko and Flight Engineer Yuri Usachev for a two week stay on the outpost. Astronaut John Blaha, the final member of the Mir 22 crew, set to arrive via STS-79 in September, was in Russia to see the launch and receive some refresher training before joining the STS-79 crew later this week.

The trio's arrival was a welcome sight for the Mir 21 crew, which has gone several months without visitors.

"Things are exciting here on Mir with the new crew. We have six people on board station — four from Russia, one from France and one from America," Lucid said in an interview Monday. "It is the first time Yuri, Yuri and I talked face-to-face with a different person in about five months, so it's pretty exciting up here on Mir."

The international crew is indicative

of how life will be on the International Space Station. Lucid said the experiences being gathered by the joint cooperation on the Russian space station are providing the groundwork for the future space station.

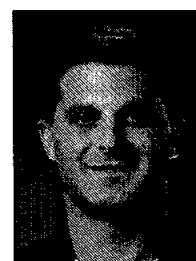
"One of the main objectives of this cooperative program that we have with the Russians right now, which we call Phase 1, is so that we can learn how to work with other cultures, and learn to work with other nations, and especially working with the Russians since they will have such a vital part in the space station that we will be building," Lucid said. "It gives not only astronauts and cosmonauts the opportunity to learn how to work together, it also gives the ground support people the opportunity to learn how to work together to mix the cultures to make a good working environment."

The multiple docking operations needed to accommodate the Mir 22 mission underscore the versatility of the Russian program which contributes valuable flight operations to the International Space Station team. Currently, the Progress supply capsule which had been docked with Mir has been undocked and moved to a parking orbit around the station to accommodate both Soyuz capsules now currently docked with Mir.

Please see **LAWRENCE**, Page 4



Lawrence



Wolf

## JSC, school district team up on 'Longhorn Project'

High school agricultural education project to utilize JSC land near Rocket Park

JSC and the Clear Creek Independent School District are joining forces to develop a first of its kind facility for furthering agricultural education at the high school level. The project will continue NASA's mission to work with the educational community to inspire students and create learning opportunities.

"The Longhorn Project" — named for the cattle breed that is synonymous with the State of Texas — will offer students the opportunity to learn about cattle care and breeding, aquaculture, and fruit and vegetable cultivation.

A 60-acre tract west of Rocket Park and bounded by Saturn Lane on the south and the Antenna Test Range on the north has been identified for use for the project. The tract is composed of a 35-acre pasture for grazing, a 10-acre wildlife habitat pond, an 8-acre feedlot with a small barn, and 7 acres for aquaculture ponds, gardens and orchards.

Through agricultural education, students learn science, mathematics and technology skills that are the cornerstones of expertise that will be needed to run the space program in the future. By using innovative meth-

ods and interdisciplinary projects such as this, JSC is helping to provide the environment to develop the scientifically and technically literate citizens of the future. JSC already is involved in a number of scientific and educational efforts involving horticulture, including development of synthetic soils to grow plants in space and the use of plants to recycle the atmosphere in future spacecraft and extraterrestrial bases.

Funds for construction of facilities, fencing, earthwork, and associated equipment will come from donations to CCISD from area business and

industry. The State of Texas and various agricultural and cattle breeding organizations are donating cattle, fish, seeds, fruit trees, vegetables, and other supplies. The school district will provide maintenance of facilities and groundskeeping for the project. JSC is permitting use of the land and providing technical expertise for both the design and construction of the project.

"We see this as an opportunity to be a partner with the Clear Lake community and to help to provide a resource for young people planning to enter the agribusiness field,"

said JSC Director George Abbey "The Clear Creek Independent School District has needed a facility of this kind to teach students in a hands-on environment and we are very pleased to be a part of this project. We are especially pleased with the enthusiastic response for support we have received from industry, state, and federal offices in advance of a public announcement of the Longhorn Project."

Initially, five head of registered longhorn cattle will be brought in to stock the project. Plans include a Please see **PLANTING**, Page 4

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# Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Store from 10 a.m.-2 p.m. Monday-Thursday and 9 a.m.-3 p.m. Friday. For more information, call x35350 or x30990.

- EAA Belize Resort Trip:** Available Sept. 1-Dec. 15, \$472 double occupancy, \$100 deposit required, final payment due 30 days before departure.
  - EAA Caribbean Getaway Cruise to Puerto Rico:** Jan. 3-13, \$1198 double occupancy with airfare, \$999 cruise only, deposit due by Sept. 5, final payment due Nov. 4.
  - Sam Houston Race Park Track Pack:** \$10 value pack for \$5.25, includes Club Level seating, program, tip sheet, admission, preferred parking and gift shop discount.
  - Splashdown:** One day pass cost \$14.25.
  - Schlitterbahn:** One day pass cost \$19.75 for adults, \$16.95 for children.
  - Astroworld:** One day pass cost \$22.75, two day pass cost \$34.25.
  - Fiesta Texas:** One day pass cost \$22.75, two day pass cost \$34.25.
  - Six Flags at Arlington:** One day pass cost \$22.75, two day pass cost \$34.25.
  - Sea World:** Adult tickets cost \$24.50, children (3-11) cost \$17.25.
  - Space Center Houston:** Discount tickets, adult, \$8.75; children (4-11), \$6.25, annual membership, \$22.95, family membership, \$59.95.
  - Movie discounts:** General Cinema, \$4.75; AMC Theater, \$4.50; Sony Loew's Theater, \$4.75.
  - Stamps:** Book of 20, \$6.40.
- JSC history:** *Suddenly, Tomorrow Came: A History of the Johnson Space Center.* Cost is \$11.
- Metro tickets:** Passes, books and single tickets available.

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# Gilruth Center News

- Sign up policy:** All classes and athletic activities are first come, first served. Sign up in person at the Gilruth Center and show a NASA badge or yellow EAA dependent badge. Classes tend to fill up two weeks in advance. Payment must be made in full, in exact change or by check, at the time of registration. No registration will be taken by telephone. For more information, call x30304.
- EAA badges:** Dependents and spouses may apply for photo identification badges from 7:30 a.m.-9 p.m. Monday-Friday; and 8 a.m.-4 p.m. Saturdays. Cost is \$5. Dependents must be between 16 and 23 years old.
- Defensive driving:** One day course is offered once a month. Cost is \$25. Interested employees should call the Gilruth.
- Stamp club:** Meets at 7 p.m. every 2nd and 4th Monday in Rm. 216.
- Women's self defense:** Martial Arts training for women only from 5-6 p.m. Tuesdays and Wednesdays. Cost is \$35 a month.
- Weight safety:** Required course for employees wishing to use the weight room is offered from 8-9:30 p.m. Sept. 9. Pre-registration is required. Cost is \$5.
- Exercise:** Low-impact class meets from 5:15-6:15 p.m. Mondays and Wednesdays.
- Aikido:** Martial arts class meets from 6:15-7:15 p.m. Tuesday and Wednesday. Cost is \$35 per month. New classes begin the first of each month.
- Aerobics:** Classes meet every Monday, Tuesday and Thursday.
- Ballroom dancing:** Cost is \$60 per couple. For additional information call the Gilruth Center at x33345.
- Country and Western dancing:** Beginner class meets 7-8:30 p.m. Monday. Advance class meets 8:30-10 p.m. Monday. Cost is \$20 per couple.
- Fitness program:** Health Related Fitness Program includes a medical examination screening and a 12-week individually prescribed exercise program. For more information, call Larry Wier at x30301.
- Leagues:** Registration for basketball, flag football, volleyball and soccer leagues will be Aug. 19-30. Call the Gilruth for registration information.

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# Swap Shop

Swap Shop ads are accepted from current and retired NASA civil service employees and on-site contractor employees. Each ad must be submitted on a separate full-sized, revised JSC Form 1452. Deadline is 5 p.m. every Friday, two weeks before the desired date of publication. Ads may be run only once. Send ads to Roundup Swap Shop, Code AP2, or deliver them to the deposite box outside Rm. 181 in Bldg. 2. No phone or fax ads accepted.

## Property

- Sale: Egret Bay condo, 1-1, FPL, new carpet, appliances, cov'd parking, \$29.9k. x36762 or 339-2306.
- Lease: Pipers Meadow, 3-2-2, new carpet, sun-room, FPL, \$850 mo. 244-0124 or 480-9436.
- Lease: Oakbrook, CLC, 4-2-5-2, fenced, no smokers/pets, \$1,150. Jack Cohen, 488-3171.
- Sale: Oakbrook, CLC, 4-2-5-2, New Orleans style, 2 story w/balcony, landscaping, new carpet/flr, pool w/facuzzi, home warr, \$119.5k. x38275 or 480-4634.
- Sale: Grand Cayman, 1BDR timeshare condo on the beach, floating week, very nice, good price. 992-2969.
- Sale: Meadow Bend, LC, 3-2-2, 1/4 acre, 1184 sq ft, new A/C, Kevin, 333-3705 x121 or 538-3141.
- Sale: Sycamore Valley, 2 story, 3-2-5-2, com remodeled, custom kit, lg back yard, \$87.k. 488-0664.
- Sale/Lease: Condo, 1-1 w/study. 977-5763.
- Rent: Friendswood/Clear Lake area, FPL, gas, avail 9/1, \$625 mo + \$625 dep. 333-4743 or 992-5447.
- Rent: El Dorado Trace, 2-2, balcony, FPL, alarm, W/D, sauna/hot tub, \$575 mo. 333-8126 or 488-0621.
- Rent: Galveston condo, furn, sleeps 6, Seawall Blvd & 61st ST, cable TV, weekend/weekly/daily rates. Magdi Yassa, 333-4760 or 486-0788.
- Rent: South Lake Tahoe cabin, 3-2, sleeps 8, cable TV/VCR, W/D, \$85/mo, weekly & holiday rates. x41065 or 326-2866.
- Rent: Arkansas cottage overlooking Blue Mt Lake and Mt Magazine, furn, FPL, \$50/day, \$250/week. Corcoran, x47806 or 334-7531.
- Rent: Beach house, Crystal Beach, TX, Galveston City, sleeps 10, furn, cable TV, wkly/wknd rates. 486-1888.
- Rent: Lake Travis cabin, priv boat dock, central A/H, furn, sleeps 8, fall, \$550 weekly/\$120 daily. 474-4922.
- Sale/Trade: heavy wooded lot, .5 acre at Sam Rayburn Lake; 2 camper lots at Lake Livingston. Dave, Ayoub, x37756.

## Cars & Trucks

- '90 Chevy S10 pickup, 140k mi, good cond, \$2.7k obo. Campbell, 326-3071.
- '89 Toyota Supra, ruby red/tan inter, loaded, tint, AM/FM/cass, sec alarm, 106k mi, \$6.2k nego. Josh, 488-4182.
- '91 Chevy Beretta, blue, low mi, 3.1 V6, reg maint, ex cond, \$6.8k obo. Dan, x34640 or 482-7550.
- '94 Pontiac GrandAM GT, H.O., \$9.5k. David, x30299 or 484-3433.
- '94 Honda Passport LX 4x4, V6, auto, tint, A/C, ex cond, 23k mi, garaged, \$18k. 334-3941.
- '96 Saturn SC1, 16k mi, P/W, P/L, upgraded stereo, extras, ex cond, keyless entry. 992-3417.
- '76 F-100 pickup, good work truck, \$900. x31883.
- '92 Nissan kingcab, auto, A/C, P/S, P/B, stereo/cass, bucket seats, 82k mi, \$7,250. 332-2039.
- '88 Ford Ranger w/truck box & metal rack, \$2k. Ross, x38848 or 922-7149.

- '84 Camero, V6, new paint, rebuilt eng, A/C, new starter, \$2,995. x33814 or 481-5822.
- '93 Chevy Sierra C-1500, ext cab, 350 V8, P/S, P/B, cruise, A/C, maroon. Les, x30090 or 331-5951.
- '80 VW camper, new tires/brakes, stove & icebox, A/C, \$2,950; rebuilt VW motor, \$650. 470-9322.
- '84 BMW 318i, white, 5 spd, sunroof, good cond, \$3.8k. 991-0821.
- '90 Geo Storm, 5 spd, AM/FM/cass, A/C, 67k mi, red, \$4,950 obo. 996-5182.
- '87 Buick Park Ave, V6, cruise, pwr, lots of new equip, tires, \$3.5k firm. Giner, x38493 or 332-7908.
- '50 Chevrolet, 3/4 ton truck, \$2.2k. 286-5971.

## Boats & Planes

- '85 Chaparral 178, 140 Mercruiser, garaged kept, \$4.8k. David, x30299 or 484-3433.
- Original "Wind Surfer" w/teak boom, \$60. Ross, x38848 or 922-7149.
- SunFish sail boat w/trailer, \$200 obo. 333-9577.
- '88 Sea Ray Seville 18' bowrider, 130Hp I/O, pwr, trim/tilt, P/S, ss prop, swim platforms, bimini top, AM/FM, skis/tow rope, vest, galv trlr, ex cond, \$8k. x48959 or 532-1673.

## Cycles

- '90 Yamaha Radian 600, runs great, looks great, \$1.8k. James, 286-1934.

## Audio Visual & Computers

- Commodore computer, 2 complete sys, monitor, printer, lots of games, \$50. 554-2049.
- Macintosh Power PC's, 6200 or 6205 w/16Mb, 1 Gb HD, modem, CD, kybd, mouse, & extra S/W, \$1.1k; 14" color SVGA mon, 28 dpi, \$220; Apple 15" multi-scan mon w/built-in spkrs, \$400; Teleport Platinum 28.8k fax/modem, \$130; Stylewriter 2500 color printer, \$250. 244-2444 or 488-4382.
- Two 4Mb 72 pin SIMM's for Power Mac, \$50 ea. Jim, x30166 or 286-7374.
- DX2-66 & DX4-100, 8Mb/850Mb, mini tower, 14" mon, \$695/745; Pentium 75/100/133/166, 16Mb, 850Mb, 14" mon, \$899/969/1069/1249, all have Win 3.11 or Win 95+ Office. Don, 333-1751.
- Two Panasonic telephones, 1-integrated w/answering sys & built-in spkr phone, \$85; 1-10 channel auto-scan cordless phone w/16 station auto dialer, \$75. Sonya, x32920.
- Turntable, 2 speakers, 10" x 18", ex cond, \$85 all. 333-2335.
- IBM PS-1, 486 PC, 8 Mb RAM, 170Mb HD, CD-ROM, sound card, spkrs, 14.4 modem, Win 3.1, MS Works, \$800 obo. John, x32344 or 486-7760.
- Super NES Jungle Strike game, \$35 obo. Ron, x48200.
- Panasonic KPX-11241, 24-pin, 360dpi, dot-matrix printer, works great, \$75. Gus, x33425 or 286-3402.
- Mac IICI 8/230 w/SuperMac 8 bit graphics card, SuperMac 19" mon & Practical Peripherals 14.4 exterior modem. \$1k obo. Jim, 244-5068 or 286-1766.
- RCA DSS satellite system, model #3330. Kathy, x34221 or Michael, 338-1248.

## Musical Instruments

- Audio-Technica DR-3000 wireless guitar sys, ex cond, \$140. Dave, x38990 or 332-8041.
- Antique carved upright piano, dark wood, \$450; antique organ, hvly carved, both pre-1900's, \$575. 286-2235.

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# Dates & Data

## Today

**Reservations due:** The Performance Management Association, Houston chapter, will host a luncheon workshop on the Implementation of an Earned Value Management System at 11:15 a.m. Aug. 29 at the Ramada Inn on NASA Road 1. The discussion will focus on "Work Authorization and Budget Drivers." Reservations are due by Aug. 23. Cost is \$13 and includes lunch. For more information call Susan Widmer at x34299.

**Cafeteria menu:** Special: fried chicken. Total Health: vegetable lasagna. Entrees: pollock hollandaise, beef stroganoff, vegetable lasagna. Vegetables: steamed broccoli, carrots vichy, Italian zucchini, breaded okra.

## Saturday

**JSC Open House:** JSC will host an Open House from 9 a.m.-4 p.m. in conjunction with the Ballunar Lifftoff Festival.

## Monday

**Cafeteria menu:** Special: meat sauce and spaghetti. Total Health: potato baked chicken breast. Entrees: Wieners and beans, sweet and sour pork chop, potato baked chicken, steamed fish, French dip sandwich. Soup: cream of broccoli. Vegetables: French cut green beans, seasoned rice, California vegetables, buttered beans.

## Tuesday

**Cafeteria menu:** Special: smothered steak with dressing. Total Health: baked potato. Entrees: beef stew, liver and onions, shrimp Creole, baked chicken, fried cod fish, French dip sandwich. Soup: navy bean. Vegetables: steamed rice, seasoned cabbage, corn O'Brien, peas.

## Wednesday

**Toastmasters meet:** The Space-Land Toastmasters will meet at 7 a.m. Aug. 28 at the House of Prayer Lutheran Church. For more information call Jeannette Kirinich x45752.

**Astronomy seminar:** The JSC Astronomy Seminar will meet at noon Aug. 28 in Bldg. 31, Rm. 129. A video, "Observing with Keck Telescopes," will be shown. For details call Al Jackson at x35037.

**Cafeteria menu:** Special: salmon croquette. Total Health: baked potato. Entrees: roast pork, stir frybaked perch, steamed fish, vegetable lasagna, Reuben sandwich. Soup: seafood gumbo. Vegetables: mustard greens, okra and tomatoes, vegetable sticks, lima beans.

## Thursday

**Radio club meets:** The JSC Amateur Radio Club will meet at noon Aug. 29 in Bldg. 16, Rm. 253. The meeting will include nominations of officers. For more information call Larry Dietrich x39198.

**Cafeteria menu:** Special: stuffed cabbage rolls. Total Health: baked potato. Entrees: beef tacos, ham and lima beans, pork and beef egg rolls, steamed fish, catfish, French dip sandwich. Soup: beef and barley. Vegetables: Brussels sprouts, green beans, buttered squash, pinto beans.

## Friday

**Cafeteria menu:** Special: baked chicken. Total Health: roast beef au jus. Entrees: deviled crab, baked chicken, beef cannelloni, steamed pollock, Reuben sandwich. Soup: seafood gumbo. Vegetables: seasoned carrots, peas, breaded okra, steamed cauliflower.

## Sept. 2

**Labor Day:** Most JSC offices will

be closed in observance of the Labor Day holiday.

## Sept. 3

**ASQC meets:** The Bay Area Section of the American Society for Quality Control will meet at 5:15 p.m. Sept. 3 at the Ramada King's Inn, Ballroom, 1301 NASA Road 1. Gary Hatfield and Art Orscheln will discuss "Professional Development Through ASQC Certification." Dinner cost \$9. For more information call Ray Swindle, at 335-6948.

**ABWA meets:** The American Business Women's Association, Clear Lake Area Chapter, will meet at 5:30 p.m. Sept. 3 at Bay Oaks Country Club. For more information call Nancy Hutchins at x34006.

## Sept. 5

**Warning system test:** The site-wide Employee Warning System will under go its monthly audio test at noon Sept. 5. For more information call Bob Gaffney at x34249.

## Sept. 9

**Running club meets:** The Bay Area Running Club will meet at 6:30 p.m. Sept. 9 at Challenger Park for a three-mile run, followed by a meeting at 7:30 p.m. Sherry Granader of World's Gym will discuss nutrition and healthy eating. For information call Mark Anderson at x30909.

## Sept. 10

**BAAC meets:** The Bay Area Aero Club will meet at 7 p.m. Sept. 10 at the Houston Gulf Airport in League City. For more information call Jerry Adair at x38058.

## Sept. 11

**MAES meets:** The Society of Mexican American Engineers and Scientists will meet at 11:30 a.m. Sept. 11 in the Bldg. 3 Cafeteria executive dining room. For information call Michael Ruiz at x38169.

## Photography

- Pentax ME Super camera w/50mm f2.0 and 28-80mm Takumar zoom, flash, tripod, 2 x telecon, Sears 80-200 zoom, case, \$375. Steve, 992-7049.
- Sony VCR 8mm format w/timer recording, on-screen display/editing, \$175. Sonya, x32920.
- Video/camera professional tripod, stainless, ex cond, \$75. 333-2335.
- Sony 8mm camcorder f70, zoom 8X + accessory, needs repair, \$90 obo. x35952.
- Sharp video camera, w/all cables, ex cond, \$150. 488-5564.

## Pets & Livestock

- Free kitten, black 3 mo old, male, x38603 or 332-1354.
- Full blood Limousine Bull, 16 mos, total maternal 12, \$900 delivered. 473-1145.
- Siberian Husky puppies, AKC reg, 2 males, 1 sable, 1 black/white, shots, \$300. Lisa, x40213 or 992-7302.

## Household

- Solid teak rectangular dining table, 6 chairs, custom pad, \$475. 212-1470 or 470-2744.
- Henridon velvet loveseat, mint green, ex cond, \$400 obo. x30336 or 333-5260.
- Sears deep freeze, new gasket, \$100. Currie, x34428 or 480-7796.
- Chinese wash carpet, 9' x 12', shades of green & offwhite, \$100. x31057.
- Bedroom set, full size, antique green w/dresser, 5 drawer chest & 2 night stands, Italian design, great cond, \$950. Magdi Yassa, 333-4760 or 486-0788.
- Off-white sofa, good cond, \$300. Kari, 282-9366.
- Color 13" TV/VCR combo, ex cond, \$150; dark pine dresser w/mirror & nightstand, \$150 set; brass overhead lamp, \$40. Charlene, x30185.
- GE Spacemaker Microwave, ex cond; double bed mattress. 2835-5498 or 992-3347.
- Duncan Phyfe mahogany dining suite, 6 chairs, china cabinet, \$1,275 obo. 996-0552.
- Water bed, walnut, drwr, \$150 obo; bar, 2 swivel bar stools w/back, walnut brass foot rest, \$300 obo; 2 end tbs, walnut, marble inserts, drwr, \$50 ea or both \$75 obo. Pat, x33005 or 334-3827.
- Oriental style coffee tbl, imported heavy glass top, \$350; Bassett, chest of drwr, \$95; antique end tbs, 2, solid oak, great cond, \$150 both; pr tbl lamps, nice cond, \$25 both. 488-5564.
- Twin beds w/mattress/frame, 2 sets, ex cond, \$50 ea; glass coffee table, 4 x 3, oak color, good cond, \$25. Kathy, x36657.
- Waterford Crystal, pattern Alana; champagne, water goblet, cocktail, \$28 ea stem. 480-2188.
- Dresser w/mirror, \$50 obo; ceiling fan w/lights, \$25; 3 piece unfinished pine table set, \$30; swivel rocking chair, \$50. Lisa, x40213 or 992-7302.
- Montgomery Ward signature series, refrigerator, 21 cu ft w/ice maker, \$400. x49640 or 481-6125.
- Antique mirror, 32.5" x 47", \$125; chest of drwr, \$95; desk, wtbl w/brass pulls, glass top, good cond, \$150; oriental style coffee tbl, hvly oval glass top, \$350. 488-5564.
- Black leather sofa, \$375; twin bed w/brass/chrome hdbd, \$150; 2 whitewashed papasan w/black cushions, \$50 ea; GE 9" color TV, \$100; RCA 19" color TV, \$150; coffee tbl & 2 end tbs, \$175 set, sofa sleeper, \$200. 721-0809.
- Refrigerator, ex cond. Myrna, 281-461-1041.

- Magnavox 19" color TV w/remote, ex cond, \$75. 486-8266.

- Kitchen table, 3 glass panel top, w/wood frame, \$50. 474-3884.
- Contemp entertain center, whitewash finish, accommodates 30' TV, drawers/trays/smoked glass doors, ex cond, \$225. Gus, x33425 or 286-3402.
- Bassett baby crib, maple, \$75; Hot Point electric dryer, \$75. Jim, x30166 or 286-7374.
- Apartment size, stackable, Whirlpool electric dryer, \$300. 554-2049.
- Single waterbed/daybed, \$125. Josh, 488-4182.

## Wanted

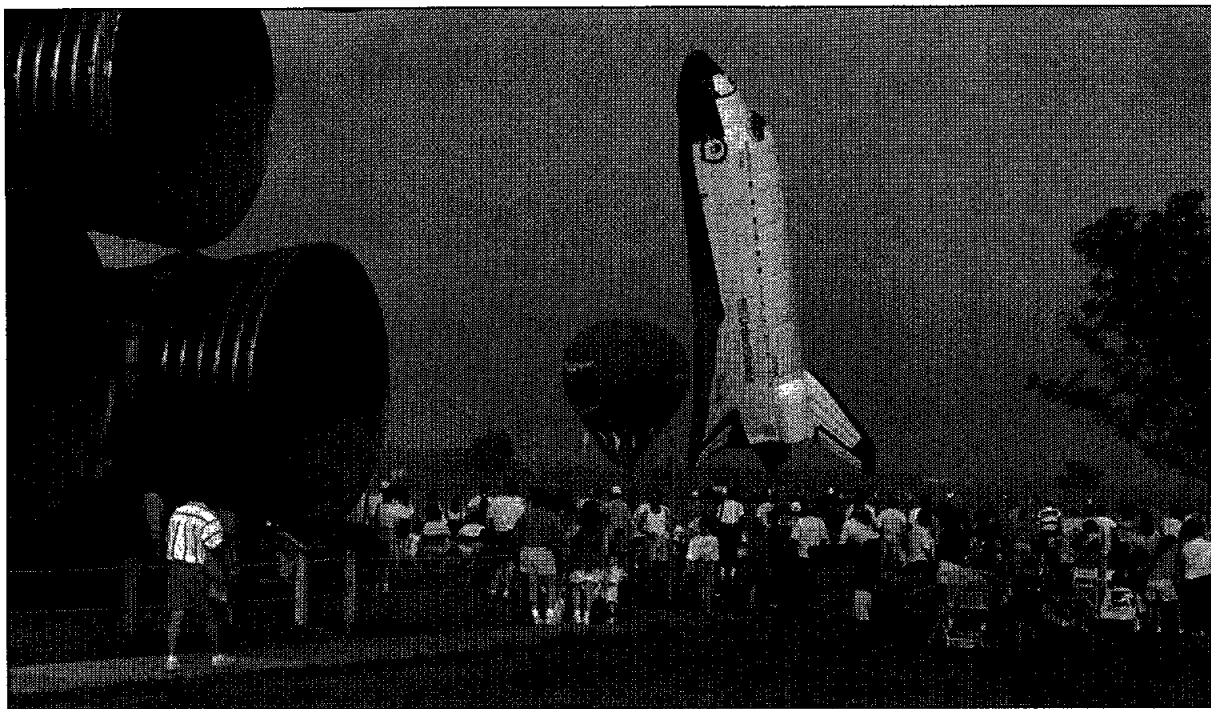
- Want personnel to join VPSi vanpool departing Meyerland Park & Ride lot at 7:05 a.m. for JSC, 8 a.m./4:30 p.m. shift. Don Pipkins, x35346.
- Want non-smoking, roommate to share lg 4-2, home in CL, \$400 mo + 1/2 utlie. Jim, 291-9469.
- Want non-smoking roommate to share 3-2-2 in Webster, \$340 includes all utlie except phone, prefer students. 332-8417.
- Want non-smoking, male roommate to share 2-2 townhouse in Pearland, \$350 + 1/2 utlie. John, 997-8796.
- Want responsible roommate to share 3-2-2, LC, \$290 mo + utlie. Kim, 334-2186.
- Want non-smoking housemate to share 3-2, Sage-mont, no pets/children, \$385 mo + 1/2 utlie, not including phone + \$400 dep. Diane, x47129.
- Want non-smoking roommate to share 4-2, Friendswood, cable, W/D, VCR, household privileges, \$250 mo all bills pd. Michael, x38169 or 482-8496.
- Want original 8-byte Nintendo entertainment system, cheap. 554-2049.
- Want your hydraulic floor jack lift bar. x31883.
- Want space memorabilia for priv collection, flown items, e.g. utensils, clothing; autographs on photos, covers, etc. relating to Mercury, Gemini, Apollo, Skylab, Shuttle. Richard or Nancy, 481-8080.
- Want 2 tickets to Texas vs. Notre Dame football game. x34512.
- Want bowler for team in JSC Mens league, Thursday nights, early session at Alpha Bowl, 180+ average. Dave, x34341.
- Want low priced school/work car or truck. Prefer Japanese. 271-7011.

## Miscellaneous

- Warren Moon autographed football, \$50; Dallas vs. Buffalo Superbowl football, \$75; limited Edition Reggie Jackson autographed picture, \$100; 25" color TV, \$200. Charlene, x30185.
- Warren Moon autographed game used shoes, \$200; Space Shots 1 uncut sheets, \$10; sets, \$20; boxes, \$35; '58 Target Moon set, 5 cards, \$475; 19 cards, \$375. James, x31242.
- '93 Jayco 1406 pop-up camper, sleeps 6, A/C, frig, stove, sink, porta-potty, awning, \$4,995. 482-9576.
- Pioneer Tige 4500 model airplane engine, ex cond, few flights on 1 airplane, \$290. 585-4268.
- Beverage-Air home beer tapper w/CO2 bottle & empty keg, \$275. Jim, 333-7495 or 482-9116.
- Antique baby bed, Graco infant walker, Cosco infant car seat, \$100 for all, or separately. 997-9031.
- Four Southwest Airline tickets to Cleveland, 8/23-9/3, \$700. Anne, 486-4981 or Bill, x34941.
- Cardinglyde, ex cond, \$99; home gym, Bodytech, ex cond, 4 stations, dual stack, \$599. 482-9576.

- Walter PPK/S .380 cal, 9mm w/gun cleaning kit, ex cond, \$500 firm. Sonya, x32920.

- Two glass base tbl lamps, \$40 both; heart-shaped wedding guest book, \$35; clay indian plant pots, \$25 ea; Mitsubishi flr mats, black, \$10; designer wedding dress, white, sz 6/8, short train, veil & petticoat, \$200; teal evening gown, sz 6, beaded bodice, chiffon skirt, \$150. Su, x45722.
- Classic utility trailer, spare tire in front, adj tongue jack, steel floor, tail lights, hvy duty rear bumper, good tires, ex cond, \$500. x30021 or 479-7947.
- Oak wall unit computer desk, 2 bookcases, 2 sets of drawers, light fixture & locking file drawers, ex cond, \$1k. obo. 280-2663 or 474-3741.
- Princeton Review GRE book, '97 edition, \$10. 488-0664.
- Manual treadmill, \$75. ben, x30755 or 486-2633.
- Honda power-propelled lawnmower, rear bagger & mulching mode, ex cond, 3 spd, hvy duty aluminum deck, \$295. 244-2444 or 488-4382.
- Peugeot women's racing 10 spd, ex cond, \$55; Ariens 38" mower, 11Hp Briggs & Stratton engine, elect start, maint records, \$650 obo. Paul, 333-7369.
- Two 15 rd factory magazines, fits Taurus PT 92/99, \$50. Barry, x39280 or 996-5739.
- Extensive law library, contains Southwest 2nd Southeast 2nd; Pacific 2nd; Texas Digest; American Law Reports; bound Texas Law Journals thru 1989, \$400. 286-2235.
- Gasoline edger, \$50; gas weed eater, \$25, both need minor repair. 482-1582.
- Russian night vision rifle scope w/case, uses AA batteries. Ron, x48200.
- Mexican glazed Talavera pottery sink, oval 19.5" x 15.5" ID, overflow holes & drain, \$150 obo. Steve, 992-7049.
- Little Tykes Jr Activity Gym, ex cond, \$55. Sharon, 480-2646.
- '86 blue PU topper, fiberglass, \$90 obo. 946-6814.
- Two bird/small animal cages, \$15 ea; pr tbl lamps, nice, \$25; four GJX14 alloy wheels w/wheel covers, fits Mustang or equiv sz car, \$175; pr of stools, metal structure w/wood seats, \$10 both. 488-5564.
- RCA 25" console TV, stereo sound, \$450; regulation pool table, needs recovering, \$800. Diane, x47129.
- Bike Avocat seat, ex cond, \$15; women's Avocat shoes, sz 7, \$10; roof rack, \$40 obo. 488-0621.
- Bikes, mens 26", 12 spd w/new tires, \$50; girls 24", 10 spd, \$35; misc building materials, hardwood front entry door' wood rear entry door w/6 panes of glass, 4'x8" wood trellis. Jeff, x31177 or 480-8416.
- Century Quick-Fix wire feed welder, 120 volts, includes mask/gloves/wire. 991-0821.
- Kilns, 23" Olympic Oval w/furniture, \$500; 18" Blue Diamond w/furniture, \$200; numerous ceramic molds, \$1 - \$5 ea; weed eater brand rear-tine tiller, ex cond, \$350. 997-2280.
- Washer/dryer, \$100; beer making kit, \$100; 10 spindle bike, \$35; elect fence charger, \$20; Pioneer turntable, \$10; asst record albums, .50 ea; scuba regulator w/gauges, \$125; wetsuit, \$20; shorty wetsuit, \$10. Kevin, 333-3703 x121 or 538-3141.
- Men's single spd bike, \$30; 6 drawer oak dresser w/mirror, \$200; Sears hand telescope, \$20; wicker bookcase, \$50; blue fabric corner table w/glass top, \$10; Pack-in-Play pin, ex cond, \$50; yellow lamp, \$5; Dodge AM/FM radio, \$5; snow chains, 14" tires, \$5. 332-2453.



# Red carpet rolls out

## JSC Open House, Ballunar Festival offer variety of activities

### Ongoing Activities

- Bldg. 2 Teague Auditorium**  
**Lobby**  
*Demos* —Space suit briefing, shuttle home page  
*Activities* —Teacher Resource Center, coloring sheets, glider build, rocket launches  
**Room 122**  
*Displays* — Shuttle evolution, patches, orbiter tiles, shuttle-Mir Model, spacehab, EVA suits, Mir model, Buran, Soyuz rocket, Thagard's Russian launch/entry suit, penguin suit, shaving kit, personal hygiene kit, sleeping bag, seat liner, personal floatation device, Mir/STS-71 docking target, Russian crafts, dictionaries, textbooks, costumes and Russian language  
*Videos* — STS-79 docking animation, Priroda processing and launch, Baikonur launch pad, crew training, Mir science and EVA hardware  
**Television studio**  
*Demos* — World Wide Web NASA imagery  
*Displays* — What City Is This?, Mission Update set, shuttle photographs and Chroma key wall  
*Videos* — Mission animation, Earth views, educational shows, shuttle crew images and mission update
- Bldg. 3 Cafeteria**  
*Astronaut autographs*  
*Displays* — Workforce data charts, co-op program, educational requirements, budget charts, diversified workforce and benefits from space  
*Interactive Activity* — University search, "Fly Your Name to Saturn"
- Bldg. 5 Shuttle and Space Station Simulator Facility**  
*Tours* — Shuttle Mission Training Facility, Space Station Training Facility  
*Demo* — Hughes mobile simulator  
*Displays* — Manned space training division, ATSC-four decades of experience, USA-benefits of human space flight, Unisys-software operations, Hughes—history of simulation and training, restored Corvette and memorabilia  
*Videos* — History of Space, NASA Space Technology and NASA Television
- Bldg. 7/7B Advanced Closed-Loop Life Support Chambers**  
**Space Suit Laboratory**  
*Demos* — Launch/entry suit and crew escape hardware, EVA equipment  
*Displays* — Advanced life support systems integration facility, bioregenerative planetary life support systems test, vacuum chambers for space suit evaluation and crew training, fabric and polymeric materials developed for space, ambient and variable pressure plant growth chambers and synthetic soil
- Bldg. 9 Shuttle and Station Mockups and Trainers**  
*Tours* — International Space Station Mockup, Full Fuselage Trainer, Crew Compartment Trainers and Orbiter Docking System  
*Demos* — ISS videoteleconferencing, precision air bearing facility, manipulator development facility, automated robotic maintenance of space station and multi-media space educators handbook  
*Displays* — Robotic hands and future mobile remote manipulator development
- Bldg. 9S Mockup Fabrication Facility**  
*Demos* — Rapid-prototyping and photo-fabrication  
*Displays* — Cleanroom, metal finishing, engraving, autoclave, resin transfer molding workstation, curved graphite/epoxy panel, composite manufacturing tools, honeycomb panels and composite mechanical test specimens
- Bldg. 10 Machine Manufacturing Facility**  
*Demos* — Water knife, Trumpf machining, Mazak mills and Hurco milling machines  
*Displays* — Welding techniques, fabrication of space fabrics, T-38 wiring harness fabrication, simplified aid for EVA rescue, shuttle light weight seats and electrical discharge machine
- Bldg. 11 Cafeteria**  
*Astronaut autographs*  
*Martian Displays* — Martian meteorite, Martian soil simulant with Leggo rovers, Mars exploration images  
*Interactive activity* — "Fly Your Name to Saturn"
- Bldg. 13 Spacecraft Mechanisms and Thermal Control**  
*Demos* — Dynamics analysis and test, shuttle thermal tiles, vibration isolation techniques, heat distribution and temperature gradients measurements  
*Displays* — DoD space shuttle/station experiments, shuttle tire and brakes, SPIFEX qualification unit, shuttle escape pole and shuttle drag chute  
*Photo opportunity* — Lightweight seat
- Bldg. 14 Space Communications Systems**  
*Tour* — Antenna test chamber  
*Demos* — Orbiter communications adapter and voice command system  
*Displays* — Mir communications system, trajectory control system, microwave heart catheter, space station antenna analysis and space to space communications system
- Bldg. 15 Human Spacecraft Propulsion and Power Systems**  
*Demos* — DYTRAN analysis and automated cable analyzer system  
*Displays* — Apollo 13 oxygen tank/destratification fan, lunar excursion module, ascent/descent engines and small thrusters, Apollo fuel cell, shuttle systems, shuttle pyrotechnics, auxiliary power unit/hydraulics, reaction control system, batteries, space station propulsion, proton exchange membrane fuel cell, SELODE, heart pump, human lunar return and Mars resource utilization system technology program
- Bldg. 16 Aerospace Testing and Simulations**  
*Demos* — Rendezvous and docking simulation, shuttle landing simulation, computer flow visualization, global positioning system and STS-71 shuttle/Mir rendezvous simulation replay  
*Displays* — Aerospace testing and simulation and general aerospace
- Bldg. 17 Advanced Studies Projects**  
*Display* — Construction of open-cockpit lunar lander
- Bldg. 29 Weightless Environment Training Facility**  
*Tour* — Weightless Environment Training Facility
- Bldg. 30 Mission Control Center**  
*Tour* — Mission Control Center  
*Displays* — USA, Lockheed-Martin and Allied Signal  
*Videos* — History of Space and NASA Space Technology
- Bldg. 32 Space Simulation Laboratory**  
*Demo* — US/Russian space suits  
*Displays* — Orbiter upgrades, reusable launch vehicle and chamber A space environment simulator
- Bldg. 35 Shuttle Simulator Facility**  
*Tour* — Guidance and navigation simulator  
*Videos* — History of Space and NASA Space Technology
- Bldg. 37 Life Sciences Research Projects**  
*Tour* — Neurolab  
*Demos* — Telemedicine  
*Displays* — Bio technology, nutrition, shuttle/Mir science experiments, crew health care system, orbiter medical system and Mir supplemental, Biomedical Research Institute, water/air testing and medical kit
- MSFC Space Station Trailers**  
*Displays* — U.S. Lab and U.S. Habitual Lab
- Ellington Field**  
*Demo* — Electronic flight instrumentation system  
*Displays* — Shuttle training aircraft, crew equipment, T-38 ejection non-destructive inspection seat, avionics upgrade, modification process and J-85 engine  
*Photo opportunity* — T-38 cockpit trainer
- Sonny Carter Training Facility**  
*Tour* — Neutral Buoyancy Laboratory

### Schedule of Events

- Friday**  
7 a.m. — Media Flights  
6 p.m. — Aviation displays, arts/crafts fair, food booths, midway attractions and community/art exposition  
7:30 p.m. — Skydiving, parade of pilots, balloon glow and concert  
8-11 p.m. — KHM mixer
- Saturday**  
7 a.m. — Balloon flight competition, aviation displays, arts/crafts fair, food booths, midway attractions, community/art exposition and symphony music  
7-9 a.m. — Brass ensemble  
9 a.m.-4 p.m. — JSC Open House  
9 a.m.-6 p.m. — Children's entertainment, hang glider flight demos, Texas state record sky diving event, model rocket demos, Confederate Air Force flights, tethered balloons and remote control aircraft demos  
9:30 a.m. — "Go for Orbit Ops": Shuttle Highlights from the Past Year in Teague Auditorium  
10:30 a.m. — Close Encounters in Space: Shuttle/Mir Rendezvous Highlights in Teague Auditorium  
11:30 a.m. — Living and Working on Mir: Space Station Phase I in Teague Auditorium  
1 p.m. — Life Out There: Findings from a Martian Meteorite in Teague Auditorium and Max-Q performance in Bldg. 9  
2 p.m. — Space Technology in Your World: Real-Life Applications of NASA Technology in Teague Auditorium  
3 p.m. — The Road Ahead: Exploration and Development of Space in Teague Auditorium and Max-Q performance in Bldg. 9  
6 p.m. — Balloon flight  
7:30 p.m. — Balloon glow, concert and Elvis in the sky  
8-11 p.m. — Saturday Night Fever featuring the Trammpps
- Sunday**  
7-9 a.m. — Key grab, balloon flight competition and brass ensemble  
7 a.m. — Aviation displays, arts/crafts fair, food booths, midway attractions, community/art exposition and symphony music  
9 a.m.-6 p.m. — Children's entertainment, hang glider flight demos, Texas state record sky diving event, model rocket demos, Confederate Air Force flights, tethered balloons and remote control aircraft demos  
4-8 p.m. — Konstalecion Tejano show  
6 p.m. — Fly away  
7:30 p.m. — Concert



## Former JSC employee earns volunteer award

Former JSC employee Ernesto Schonfeld has been chosen to receive the Houston's Mayor's Award for Outstanding Volunteer Service.

The award will be presented to Schonfeld by Houston Mayor Bob Lanier on Sept. 12. Four Houston hospitals nominated Schonfeld for the more than 17,000 hours he has given in the past 20 years to Texas Children's, St. Luke's, University of Texas M.D. Anderson Cancer Center and the Hospice at the Texas Medical Center.

"Ernesto Schonfeld is a truly exceptional volunteer, a treasure to patients and staff at not one, but four medical center institutions," said the nomination application. "Days, evenings and weekends find Ernesto interacting with patients at the four medical center institutions he calls his volunteer home.

His 'can-do' attitude is a special gift to health care professionals and patients."

Schonfeld began his career with JSC in 1968 as a nuclear chemist in the Space and Life Sciences Directorate and was one of the first

chemists to analyze Apollo 11 moon rocks. In 1986 he transferred to the Medical Division where he worked until he retired in 1994. During his career with JSC, Schonfeld spent his spare time volunteering at Houston hospitals as a certified medical translator, guide and friends to patients.

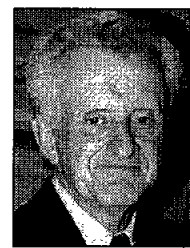
### Two secretaries earn top excellence honors

Two secretaries recently earned the Marilyn J. Bocking Award for Secretarial Excellence.

Yaranet Gonzales of the Mission Operations Directorate Business Management Office received accolades for her

organization skills and ability to prioritize and manage a heavy workload. Her ability to handle a variety of responsibilities with a "can do" attitude makes her an invaluable part of the efficient operations of the office. She has taken on several responsibilities not usually handled by secretaries with efficiency, enthusiasm and professionalism.

Susan Staley of the Laboratories Office at White Sands Test Facility was cited for her contributions to the



Schonfeld



Gonzales



Staley

ISO 9000 certification. She developed a system to meet document requirements for certification which was adopted by the entire facility and was an important factor during the auditing process. She also was cited for her ability to answer inquiries for the more than a dozen different disciplines handled in the Laboratory Office.

JSC

## People

### Workshop to benefit process in teams, projects

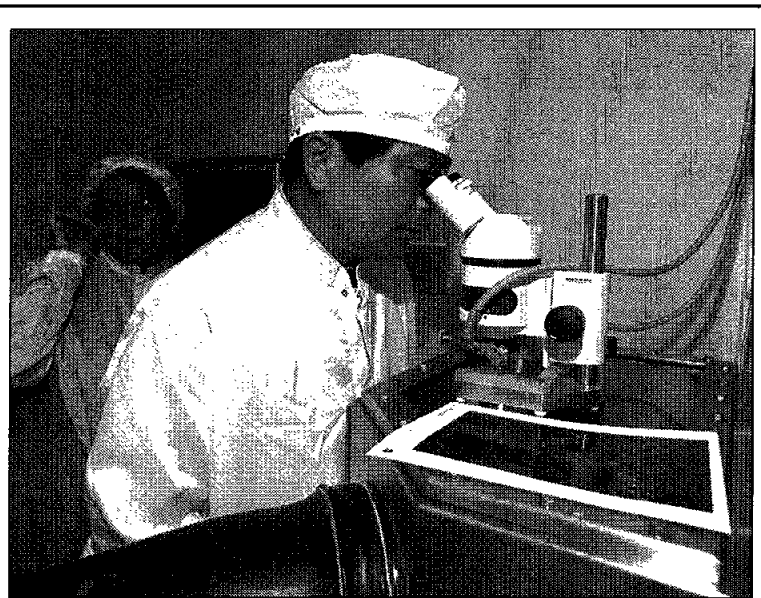
The Systems Engineering and Analysis Technical Committee of NASA is sponsoring a workshop, "21st Century Facts, Better Systems, Fewer Resources," to be held Sept. 26 at Langley Research Center.

The workshop is designed to expose all NASA employees and contractors to the systems engineering process, and to show how the use of this process makes projects and teams better able to achieve their scientific, cost and schedule goals.

Jim Ulrich, vice president of engineering, Saturn Automotive Corp., will be the guest speaker for the event. Two panels—one dealing with the current state and application of systems engineering and analysis, and the second with the future of the practice—will be featured. Exhibits will be presented by vendors who provide systems engineering and analysis tools or consulting services; the vendor exhibits will have representation from all disciplines involved in the systems engineering process.

Participation in the workshop is open to all NASA civil servants and contractors. Registration for the workshop is requested and required by Sept. 19 for attendees who do not have a NASA badge. Electronic registration is available through the Workshop Home Page at URL: <http://ixcab9.larc.nasa.gov/seac/wkshp/prereg.html>

The latest workshop information is maintained on the Workshop Home Page at: <http://ixcab9.larc.nasa.gov/seac/wkshp/> For more information call Milam Walters at 804-864-3014 or Jill Marlowe at 804-864-7027.



JSC Photo by Mark Sowa

**MARS VIEW—The Minister of State for Science and Technology of Japan and chairman of Space Activities Commission, his Excellency Hidenao Nakagawa, checks out a Mars meteorite during a visit to JSC.**

### Without new decal, you won't get on site

After Aug. 31, employees will no longer have access to JSC unless their vehicles sport the new vehicle decals.

Security has been working its way around the center throughout the month of August in an effort to make it easier for permanently badged civil service and contractor employees to make the switch to the new yellow tag.

Employees may request a maximum of three decals by presenting a completed JSC Form 1572, Vehicle Registration Record. These forms are available at the badge offices in Bldgs. 30, 110, the reception desk in Bldg. 1 and contractor security offices. Completing the JSC Form 1572 in advance will expedite the issuance of new decals. A valid per-

manent NASA or JSC badge and driver's license will be required to obtain new decals. Vehicle information required for registration includes year, make, model, color, license plate number and state in which vehicle is registered.

New decals are available at Bldg. 110 from 7:30 a.m.-5 p.m., Monday-Thursday and from 7:30 a.m.-noon on Friday. The current vehicle decals do not have to be returned when new decals are issued, but they must be scraped off and destroyed.

After Sept. 1, employees will no longer be able to show a badge to gain entry into JSC and will need to go to Bldg. 110 to obtain a vehicle decal or temporary pass. For more information, call x32112.

## Four JSC workers finish professional development

Four JSC employees recently completed a 12-month assignment geared to enhance their perspective of NASA as part of the Professional Development Program.

"Twelve months ago my class departed on a voyage of discovery," said Vincent Johnson of Center Operations. "It was a voyage to discover more about ourselves and our agency. It is now time for us to go and create the future."

Johnson, along with Bret Drake of Space and Life Sciences, Gerald LeBeau of Engineering and Alex Sanders of Mission Operations, spent their time at different NASA locations learning about the agency and its operations. Johnson and Drake spent their 12 months at NASA Headquarters, LeBeau at Langley Research Center and Sanders split his time between Kennedy Space Center and Headquarters.

The Professional Development Program was designed to provide the opportunity for individuals to prepare themselves better for future positions at NASA. Some individuals choose to develop managerial competencies while others improve technical skills. The program is designed

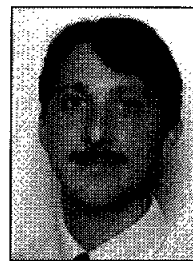
to meet participant and organizational objectives. NASA centers gain a larger cadre of individuals who are prepared to assume roles of greater responsibility, gain a different perspective on current projects, foster greater flexibility and strengthen NASA's cohesion. Participants gain new experience in their career fields, develop skills for future supervisory

positions and obtain a better understanding of a host organization's functions and operations.

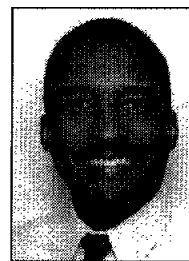
"My experience can be summarized as educational, rewarding and enjoyable," Johnson said. "Educational by having access to the functional operations of Headquarters and a broad overview as to how it interfaces with individual centers.

Rewarding from the perspective that I could be thrust into a totally different work environment with different responsibilities and execute those responsibilities with the same level of effectiveness and professionalism. Enjoyable from experiencing a new living and social environment and developing new friendships that will continue long past the end of the one year assignment."

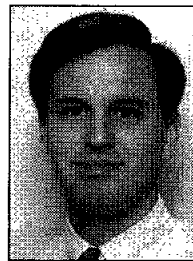
For details on the program, call Erica Vandersand, x31999.



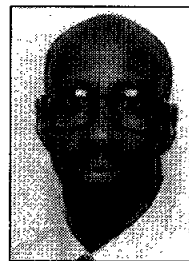
Drake



Johnson



LeBeau



Sanders

## NASA, FAA sponsor general aviation design competition

NASA and the FAA are sponsoring a General Aviation Design Competition for the 1996-97 academic year that is open to undergraduate and/or graduate students at U.S. aeronautical and engineering universities.

In its third year, the competition engages students in a national effort to revitalize the U.S. general aviation sector and seeks to educate students on the importance of general aviation for business and personal use

as well as its economic importance. The national goals for rebuilding U.S. general aviation offer open ended design challenges which can provide the basis for a quality educational experience, organizers said.

Student designs are judged by a panel of experts from industry, government and academia. All teams receive written evaluations of their design packages. It is anticipated that at least \$11,500 will be given in cash awards, including a \$500 special award from

the Aircraft Owners and Pilots Association Air Safety Foundation for the design with the greatest potential for retrofit in currently operating aircraft.

General aviation includes all flight operations except military services and commercial airlines. The 212,000 general aviation aircraft in service in the U. S. account for 62 percent of all U.S. flight hours, while providing 540,000 jobs and contributing \$40 billion to the U.S. economy. For the purposes of

the competition, general aviation aircraft are defined as: fixed-wing, single-engine, single pilot, propeller-driven aircraft for two-six passengers. The performance specifications are 150 - 300 knots with an 800 -1,000 mile range. The competition is coordinated on behalf of NASA and the FAA by the Virginia Space Grant Consortium. Guidelines are available by phone at 757/865-0726, at [vsgr.pen.k12.va.us](mailto:vsgr.pen.k12.va.us) or can be accessed at URL: <http://www.vsgc.edu/>

## Lawrence, Wolf get Mir flights

(Continued from page 1)

Korzun and Kaleri will spend six months on Mir, mostly with Blaha, while Andre-Deshays is scheduled to return to Earth on Sept. 2 with Onufrienko and Usachev. When Blaha replaces Lucid, he will continue the Phase 1 scientific investigations begun by Lucid, complete the first on-orbit handover to support a permanent U.S. human presence in space. Both Lucid and Blaha's time aboard Mir will be roughly equal to the time to be spent by crews aboard the International Space Station in the future.

To continue America's presence on the Russian station, two new American astronauts, Wendy Lawrence and David Wolf, were named to the list of future Mir crew members this week.

Lawrence is scheduled to begin a four month stay on Mir in September 1997, launching aboard *Atlantis* as part of the STS-86 crew, and becoming a member of the Mir 24 and 25 crews. Wolf is scheduled to replace Lawrence in early 1998 aboard *Discovery* during STS-89. During his stay, he will be a member of both the Mir 25 and 26 crews.

Now in her 22nd week aboard Mir, Lucid can still say that she would agree to undergo the experience all over again.

"I have enjoyed the entire experience I have had here on Mir, and that is both from a personal standpoint and from a scientific standpoint," Lucid said. "And yes, if I had known it was going to be for six months, I still would have asked to be able to come," Lucid said.

## Space News Roundup

The Roundup is an official publication of the National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, Texas, and is published every Friday by the Public Affairs Office for all space center employees.

The Roundup office is located in Bldg. 2, Rm. 181. The mail code is AP2. The main Roundup telephone number is x38648 and the fax number is x45165.

Electronic mail messages should be sent to the editor, [khumphri@gp301.jsc.nasa.gov](mailto:khumphri@gp301.jsc.nasa.gov) or the associate editor, [kschmidt@gp301.jsc.nasa.gov](mailto:kschmidt@gp301.jsc.nasa.gov).

Editor ..... Kelly Humphries  
Managing Editor ..... Karen Schmidt  
Associate Editor ..... Natasha Calder

## Planting to begin in March

(Continued from page 1)

feedlot with a 20- by- 60-foot barn, a working pen, and watering troughs. The cattle will have access to the 35-acre pasture for grazing.

Also being considered are four 60- by 180-foot aquaculture ponds that will be used to raise both salt-water and freshwater species of fish and shrimp. The plastic-lined ponds will range from 18 inches to about 3 feet in depth and will have computerized water quality monitoring systems with aerators to maintain proper oxygen levels. Water fill and drainage lines also are included.

A planned vegetable garden and fruit orchard plots will have drip irrigation systems. A small lab, housed in a metal building is planned for processing fruits and

vegetables as well as aquatic species. An adjacent greenhouse will be used for raising seed and hydroponics plant gardening.

Dr. John E. Wilson, superintendent of the Clear Creek Independent School District, said the Longhorn Project will provide an excellent opportunity for students to use the unique facilities and expertise of the space center and its employees. "It will be a tremendous opportunity for students and industry to work closely together to further education in the field of agriculture while utilizing the state-of-the-art facility at NASA," he said.

The project is scheduled for startup in March 1997, with some fruit trees and vegetables possibly being planted as early as the first month of 1997.